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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,295	09/24/2005	Robert Allan Young	PRE-SOS-0139	4602
33751	7590	04/20/2009	EXAMINER	
Greatbatch Ltd. 10,000 Wehrle Drive Clarence, NY 14031			SIGLER, JAY R	
			ART UNIT	PAPER NUMBER
			3775	
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			04/20/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/551,295	<b>Applicant(s)</b> YOUNG, ROBERT ALLAN	
	<b>Examiner</b> JAY R. SIGLER	<b>Art Unit</b> 3775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2008 and 28 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-14,19-23,28-33,37-43 and 45-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-14,19-23,28-33,37-43 and 45-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Specification***

1. Claims 37 and 47 are objected to because of the following informalities: in claim 37, line 17, the language "threaded apertures" should be "complex apertures" for clarity; and in claim 47, in line 3, the language "at least two complex aperture" contains a grammatical error, i.e. it should be "at least two complex apertures". Appropriate correction is required.
2. Claims 43 and 45 are objected to as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant's amendment filed on 28 January 2008 added the limitation "compression ramp extending from an oval shaped opening" to claims 1 and 37 which is substantially the same as the language "compression ramp extends from an oval shape" of claims 45 and 46. Claims 45 and 46 depend from claims 1 and 37, respectfully, and thus do not further limit a previous claim.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:  
  
The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
3. Claim 48 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which

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was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The language “wherein the overlapping holes further having **centers** staggered about the longitudinal axis of the plate” (emphasis added) is not supported by the original disclosure. The centers of the overlapping holes in the original disclosure are either along the longitudinal axis (as seen in Fig. 1b) or are offset from the longitudinal axis by the same distance (as seen in Fig. 5). The disclosure shows the separate complex apertures being staggered about the longitudinal axis in Fig. 5.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 6, 7, 10-12, 19-21, 28, 29, 32, 43, 45, 47, and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,406,478 to Kuo (hereinafter “Kuo”) in view of US 5,601,553 to Trebing et al. (hereinafter “Trebing”) and US 5,709,686 to Talos et al. (hereinafter “Talos”).

a. Concerning claim 1, 19, 20, 32, 43, 45, 47, and 49: Kuo discloses a bone plate having a thickness extending from a bone-contacting bottom side to a top side (see Fig. 3) with at least two complex apertures (22; see Fig. 2) extending

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through the plate thickness, each complex aperture comprised of at least two overlapping holes having an offset of a given distance between centers thereof (see Fig. 2), wherein any two immediately adjacent overlapping holes comprise an hourglass shape (see Fig. 2).

Kuo does not disclose the overlapping holes comprising a compression ramp extending from an oval shaped opening at the top side of the plate downwardly and inwardly part way through the plate thickness to a threaded lower portion.

Trebing discloses a bone plate with holes (15) that have a threaded lower portion in order to allow the use of locking screws (see Abstract) which provide a better engagement between bone plate and bone screw. It would have been obvious to someone of ordinary skill in the art at the time of the invention to have a threaded lower portion in the overlapping holes in the invention of Kuo and include locking screws, in view of Trebing, in order to allow the use of locking screws with the plate and consequently provide a better engagement between bone plate and bone screws used.

Talos discloses a bone plate with complex apertures (2) having a compression ramp (5) extending from an oval shaped opening (see Fig. 2) at the top side of the plate downwardly and inwardly part way through the plate thickness to a threaded lower portion (see Fig. 1) in order to allow the option of using compression screws as well as locking screws (see col. 1, l. 43-45 and l. 53-63). It would have been obvious to someone of ordinary skill in the art at the

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time of the invention to include a compression ramp extending from an oval shaped opening at the top side of the plate downwardly and inwardly part way through the plate to the threaded lower portion in the modified invention of Kuo, in view of Trebing, and included compression screws in order to allow the option of using compression screws as well as locking screws as suggested by Talos.

b. Concerning claims 2, 6, 7, 10-12, 21, 28, 29: Kuo further discloses holes normal to top side of plate (see Fig. 3); three overlapping holes (see Fig. 2); holes that can be considered aligned along the longitudinal axis (see Fig. 2); and the holes can be considered positioned in a staggered arrangement (see Fig. 2).

4. Claims 3, 4, 8, 9, 13, 14, 22, 23, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo, in view of Trebing and Talos, as applied above and further in view of US 6,358,250 to Orbay (hereinafter "Orbay").

Kuo, in view of Trebing and Talos, fairly suggests the invention as claimed but not specifically the holes are formed at angles with regard to the top of the plate. Orbay teaches a bone plate with separate holes that are formed normal or at an angle to the top surface of a plate (Column 3, Lines 52-58; Figure 6, Axes A<sub>1</sub>-A<sub>4</sub>) to allowing for securing bone fragments in a proper orientation (Column 4, Lines 48-53). It would have been obvious to someone of ordinary skill in the art at the time of the invention to form spate holes normal or at an angle to the top surface of the plate in the modified invention of Kuo, in view of Trebing and Talos, in order to allow for securing bone fragments in a proper orientation as suggested by Orbay.

5. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo, in view of Trebing and Talos, as applied above and further in view of US 5,851,207 to Cesarone (hereinafter "Cesarone").

Kuo, in view of Trebing and Talos, fairly suggests the invention as claimed but not specifically including a drill guide that is securely engageable to the bone plate. Cesarone discloses including a drill guide that is securely engageable to bone plate (Column 3, Lines 48-49) to allow for accurate alignment of screws in the bone plate holes (Column 1, Lines 59-67). It would have been obvious to someone of ordinary skill in the art at the time of the invention to include a securable drill guide in the modified invention of Kuo, in view of Trebing and Talos, to allow for accurate alignment of screws in the bone plate holes as suggested by Cesarone.

6. Claims 37-41, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo, in view of Trebing, Talos, and US 5,733,287 to Tepic et al. (hereinafter "Tepic").

c. Concerning claim 37 and 46: Kuo, in view of Trebing and Talos, fairly suggests the claimed invention as applied to claim 1 above, but does not fairly suggest wherein the bottom side includes recesses located between adjacent threaded apertures and which are substantially located exclusively on the bottom side, the recesses being sized so as to define a cross-section transverse to the longitudinal axis and across the recesses that ensures that a yield strength in

bending across the recesses is less than across a threaded aperture.

Tepic discloses a bone plate with recesses (13) between apertures (8) that are located on the bottom side in order to reduce the contact between the plate and bone surface (col. 2, l. 58-61). It would have been obvious to someone of ordinary skill in the art at the time of the invention to include the recesses suggested by Tepic in the modified invention of Kuo, in view of Trebing and Talos, in order to the reduce the contact between the plate and bone surface.

d. Concerning claims 38, 39, and 41, the recesses of Tepic are substantially rectangular in form (taken to be embodied by the fact that the cross section of the recess would be the same as the cross section 15 which is substantially rectangular, or alternatively embodied by the recesses are taken to be cut out at substantially right angles from the sides and top); the recesses of Tepic are equally spaced along the longitudinal axis (seen in Figure 8); and the recesses of are transverse and extend across the width of the bone plate (Column 2, Lines 58-59)

e. Concerning claim 40, Kuo, in view of Trebing, Talos, and Tepic, fairly suggest the claimed invention but not specifically the area removed from the bottom side due to the recesses is less then or equal to 50 percent of the total surface area of the bottom side. It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the modified invention of Kuo, in view of Trebing, Talos, and Tepic within the claimed range, since it has been held that where the general conditions of a claim are



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disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

7. Claims 37, 42, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo, in view of Trebing, Talos, and US 5,002,544 to Klau et al. (hereinafter "Klau").

f. Concerning claim 37 and 46: Kuo, in view of Trebing and Talos, fairly suggests the claimed invention as applied to claim 1 above, but does not fairly suggest wherein the bottom side includes recesses located between adjacent threaded apertures and which are substantially located exclusively on the bottom side, the recesses being sized so as to define a cross-section transverse to the longitudinal axis and across the recesses that ensures that a yield strength in bending across the recesses is less than across a threaded aperture.

Klau et al. teaches a bone plate with recesses (10) that are located between holes (2) and on the bottom side to allow the resistance to bending in between the holes be less than in the area of the holes (Column 1, Lines 49-52). It would have been obvious to someone of ordinary skill in the art at the time of the invention to include the recesses suggested by Klau in the modified invention of Kuo, in view of Trebing and Talos, in order to allow the resistance to bending between the holes be less than in the area of the holes.

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g. Concerning claim 42, the recesses of Klau extend from a side of the bone plate transversely toward the longitudinal axis but not across the axis (seen in Figure 9).

8. Claim 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo, in view of Trebing, Talos, and US 5,364,399 to Lowery et al. (hereinafter "Lowery").

Kuo, in view of Trebing and Talos, fairly suggests the claimed invention as applied to claim 1 above, but not specifically wherein the overlapping holes further having centers staggered about the longitudinal axis of the plate.

Lowery discloses having complex apertures with overlapping holes (27 and 41) wherein the centers of the holes are staggered about the longitudinal axis of the plate (see Fig. 2; holes are in a horizontal line and the longitudinal axis is vertical) in order to allow a solid quadrilateral fixation between two complex apertures (see col. 5, l. 22-29). It would have been obvious to someone of ordinary skill in the art at the time of the invention to have the centers of the overlapping holes be staggered about the longitudinal axis in the modified invention of Kuo, in view of Trebing and Talos, in order to allow a solid quadrilateral fixation between two complex apertures as suggested by Lowery.

### ***Response to Arguments***

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAY R. SIGLER whose telephone number is (571)270-3647. The examiner can normally be reached on Monday through Thursday from 8 AM to 4 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C. Barrett can be reached on (571) 272-4746. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. R. S./  
Examiner, Art Unit 3775

/Thomas C. Barrett/  
Supervisory Patent Examiner, Art  
Unit 3775